

WHAT IS CLAIMED IS:

1. A wiper suitable for use in a cleanroom environment and being constructed at least partly of a textile fabric having a machine direction and a cross-machine direction, said fabric being formed from a multiplicity of yarns including thermoplastic filaments, the wiper comprising: an interior and a plurality of perimeter edges disposed in surrounding relation to the interior and at least one discontinuous fused border zone disposed inboard of and extending substantially parallel to at least one of the perimeter edges,
10 wherein said discontinuous fused border zone comprises a plurality of substantially discrete fusion points formed by localized melt fusion of said thermoplastic filaments such that said discrete fusion points are disposed within a matrix of unmelted material.
- 15 2. The wiper according to claim 1, wherein said thermoplastic filaments are polyester.
3. The wiper according to claim 2, wherein said textile fabric is formed substantially entirely of polyester.
- 20 4. The wiper according to claim 3, wherein said textile fabric is subjected to heat setting at a temperature of from 180 to 300 degrees Fahrenheit and wherein said yarns have not been heated above a temperature of 300 degrees Fahrenheit.
- 25 5. The wiper according to claim 3, wherein said polyester is substantially free of inorganic ionic additives such that complete combustion of said polyester, yields an ash content of not greater than about zero to about 0.1% of the initial weight of said polyester.

6. The wiper according to claim 5, wherein said textile fabric is selected from the group consisting of knit fabric, woven fabric and nonwoven fabric.

5 7. The wiper according to claim 6, wherein the yarns forming the textile fabric have a linear density in the range of about 15 to about 250 denier.

8. The wiper according to claim 7, wherein said substantially
10 discrete fusion points within said discontinuous fused border zone are
ultrasonically induced.

9. The wiper according to claim 7, wherein said substantially discrete fusion points are of elongate geometry arranged in end to end relation in a plurality of rows extending substantially parallel to said perimeter edge.

10. The wiper according to claim 9, wherein the discrete fusion points are staggered in relation to the discrete fusion points in adjacent rows
20 such that a brickwork pattern is formed.

11. The wiper according to claim 1, wherein the wiper is quadrilateral in configuration and wherein a first discontinuous fused border zone is disposed inboard of and substantially parallel to a first perimeter edge and wherein a second discontinuous fused border zone is disposed inboard of and substantially parallel to a second perimeter edge in opposing relation to said first perimeter edge.

12. The wiper according to claim 11, wherein the first and second
30 perimeter edges extend in the cross-machine direction of the textile fabric.

13. The wiper according to claim 11, wherein a third discontinuous

fused border zone is disposed inboard of and substantially parallel to a third perimeter edge and wherein a fourth discontinuous fused border zone is disposed inboard of and substantially parallel to a fourth perimeter edge in opposing relation to said third perimeter edge.

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14. The wiper according to claim 13, wherein the first and second perimeter edges extend in the cross-machine direction of the textile fabric and wherein the third and fourth perimeter edges extend in the machine direction of the textile fabric.

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15. A wiper suitable for use in a cleanroom environment and being constructed at least partly of a textile fabric having a machine direction and a cross-machine direction, said fabric being formed from a multiplicity of yarns including thermoplastic filaments, the wiper comprising: an interior and a plurality of perimeter edges disposed in surrounding relation to the interior wherein at least one of said perimeter edges comprises a folded double layer border and a fused attachment zone disposed inboard of the folded double layer border, wherein said fused attachment zone is formed by melt fusion of said thermoplastic filaments.

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16. The wiper according to claim 15, wherein said thermoplastic filaments are polyester.

17. The wiper according to claim 16, wherein said textile fabric is
25 formed substantially entirely of polyester.

18. The wiper according to claim 17, wherein said textile fabric is subjected to heat setting at a temperature of from 180 to 300 degrees Fahrenheit and wherein said yarns have not been heated above a temperature of 300 degrees Fahrenheit.

19. The wiper according to claim 17, wherein said polyester is